



US 20210361858A1

(19) **United States**(12) **Patent Application Publication****Lanier, JR. et al.**(10) **Pub. No.: US 2021/0361858 A1**(43) **Pub. Date: Nov. 25, 2021**(54) **INFUSION PUMP ASSEMBLY****A61M 5/168** (2006.01)**G05D 7/06** (2006.01)(71) Applicant: **DEKA Products Limited Partnership,**
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Kerwin, Manchester, NH (US)(52) **U.S. Cl.**CPC ... **A61M 5/14224** (2013.01); **A61M 2205/502**
(2013.01); **A61M 5/14586** (2013.01); **A61M**
5/16809 (2013.01); **G05D 7/0676** (2013.01);
F04B 49/00 (2013.01); **F04B 49/065**
(2013.01); **F04B 17/00** (2013.01); **F04B 17/06**
(2013.01); **A61M 2005/14268** (2013.01);
A61M 2205/0266 (2013.01); **A61M 2205/0294**
(2013.01); **A61M 2205/18** (2013.01); **A61M**
2205/3306 (2013.01); **A61M 2205/3331**
(2013.01); **A61M 2205/3375** (2013.01); **A61M**
2205/3576 (2013.01); **A61M 2205/8237**
(2013.01); **A61M 2206/22** (2013.01); **A61M**
2209/045 (2013.01); **A61M 2205/3327**
(2013.01); **A61M 2205/52** (2013.01); **A61M**
2205/3317 (2013.01); **A61M 2205/582**
(2013.01); **A61M 5/14248** (2013.01)(21) Appl. No.: **17/338,726**(22) Filed: **Jun. 4, 2021****Related U.S. Application Data**

(63) Continuation of application No. 15/595,304, filed on May 15, 2017, now Pat. No. 11,027,058, which is a continuation of application No. 14/075,076, filed on Nov. 8, 2013, now Pat. No. 9,649,433, which is a continuation of application No. 12/981,283, filed on Dec. 29, 2010, now Pat. No. 8,579,884, which is a continuation-in-part of application No. 12/347,981, filed on Dec. 31, 2008, now Pat. No. 8,496,646, which is a continuation-in-part of application No. 11/704,899, filed on Feb. 9, 2007, now Pat. No. 8,414,522, said application No. 12/347,981 is a continuation-in-part of application No. 11/704,896, filed on Feb. 9, 2007, now Pat. No. 8,585,377, said application No. 12/347,981 is a continuation-in-part of application No. 11/704,886, filed on Feb. 9, 2007, now Pat. No. 8,545,445, said application No. 12/347,981 is a continuation-in-part of application No. 11/704,897, filed on Feb. 9, 2007, now Pat. No. 8,113,244.

(Continued)

Publication Classification(51) **Int. Cl.****A61M 5/142** (2006.01)**A61M 5/145** (2006.01)

(57)

ABSTRACT

A wearable infusion pump assembly includes a reservoir for receiving an infusible fluid, and an external infusion set configured to deliver the infusible fluid to a user. A fluid delivery system is configured to deliver the infusible fluid from the reservoir to the external infusion set. The fluid delivery system includes a volume sensor assembly, and a pump assembly for extracting a quantity of infusible fluid from the reservoir and providing the quantity of infusible fluid to the volume sensor assembly. The volume sensor assembly is configured to determine the volume of at least a portion of the quantity of fluid. The fluid delivery system further includes at least one optical sensor assembly configured to sense the movement of the pump assembly, a first valve assembly configured to selectively isolate the pump assembly from the reservoir, and a second valve assembly configured to selectively isolate the volume sensor assembly from the external infusion set.

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